

### **REMARKS**

Claim 4 has been rewritten in independent form as claim 6. No new issue has been raised in this regard so claim 6 should stand allowed.

Claims 1, 2 and 5 are under consideration.

Claims 1, 2 and 5 stand rejected under 35 U.S.C. §103 as being unpatentable over Daskivich. The essence of this rejection appears to be set forth in the first nine lines on page 4 of the Office Action where the Examiner states that "based on their identified disclosed equivalency, it would be obvious to the skilled artisan... to use a combination of stearic acid (fatty acid) and stearone and/or laurone (fatty acid ketones) in an ethylene/vinyl acetate polymer-containing formulation as well in an amount, as claimed, as per such having been within the purview of the general disclosure of Daskivich and with a reasonable expectations of success, absent a clear showing of unexpected results, commensurate in scope with the claims."

The Examiner's position is based on a misinterpretation of the Daskivich teaching. The patent disclosure, beginning at line 62, col. 2, and continuing through line 18, col. 4, is merely a survey or list of the materials commonly used to make injection moldable patterns used in the lost pattern process of investment casting.

There is no suggestion that each of the listed materials is the "equivalent" of all of the other materials for the purposes of Daskivich or any other purpose. It would not be obvious to one having ordinary skill in the art to select certain of the listed materials and combine them for any purpose. There is no teaching in the patent that each of the materials could be combined with all of the other materials, and in fact this is not the case. In rejecting on Daskivich, the Examiner has

improperly selected materials from the Daskivich list and combined them in light of applicants own disclosure rather than in light of what is taught by the patent itself.

Daskivich is seeking to improve the injection molding properties of wax-containing thermoplastic compositions known in the art. He accomplishes this by granulating the thermoplastic compositions and coating the granules with silicone fluids. The coated granules are then feed to a plastic injection machine which produces pattern shapes.

Contrary to the Examiner's assertions, Daskivich does not disclose that a composition suitable for his purpose or any purpose can be formulated by selecting a fatty acid ketone and fatty acid from the many listed materials and combining them with an ethylene/vinyl resin.

As pointed out in the prior amendment, the Examiner's assertion that fatty acid and fatty acid ketones are "equivalent" is not supported by the Daskivich disclosure and is not in accordance with accepted chemical knowledge and expertise. As pointed out in attached Declaration of inventor Horton, fatty acids and fatty acids ketones are not equivalent materials. He points out that there are differences in their chemical formulas and molecular weights with the ketones having a higher molecular weight than the fatty acids. Since the properties of waxes depends upon the molecular weights, number of carbon atoms and substituent chemical groups, fatty acid ketones and fatty acids cannot be considered equivalent of each other either functionally or chemically.

The present invention is an improvement of the fatty acid ketone/ethylene-vinyl resin composition disclosed in Patent No. 4,064,083. Applicant discovered that

the addition of a fatty acid to the fatty acid ketone/ethylene-vinyl resin composition makes is possible to cast the material in large, machinable blocks without excessive internal shrinkage and cavitation or dishing in the outer side walls. It is a fact that the combination of fatty acid and fatty acid ketone results in totally unexpected and unpredictable spelled wrong synergism that is greater than the result of adding either component individually.

The Examiner argues that "As to the capability of the composition being cast in block machined to a desired shape, although this is interpreted as an intended use, referred to col. 4, lines 40-43 wherein this limitation as taught." To the extent that this statement is understood, it is again based on a misinterpretation of Daskivich. No where does Daskivich refer to a composition that can be cast in blocks and machined to a desired shape.

The Examiner further argues that "there is absolutely nothing viable on this record that the fatty acid ketones/fatty acid combination is synergistically better than the fatty acid ketone or fatty acid individually." This argument completely ignores the Horton declaration and is untenable. Horton states in paragraph 8 of this Declaration that the combination of fatty acid and fatty acid ketone has the completely unexpected and unpredictable result of nullifying the excessive tendency of ketone based compositions towards shrinkage and cavitation. The synergistic effect is further substantiated by the tests set out in paragraph 10 of the Declaration. A first test material was made of ethylene/vinyl resin containing ketone and no acid. A second sample material was prepared using the same ethylene/vinyl resin but containing a fatty acid instead of a fatty ketone. The fatty acid ketone composition

was vastly different than the ketone containing sample. The tests reported in paragraph 10 demonstrate that lack of equivalency between the fatty acids and fatty acid ketones. Horton further asserts in paragraph 10 of his Declaration that the combination of a fatty acid with a fatty acid ketone had the synergistic effect of eliminating shrinkage and cavitation. The Horton Declaration is part of the record and must be considered by the Examiner.

In addition to claiming a unique combination of fatty acid ketone and fatty acid, claim 5 specifies operable amounts of the ethylene/vinyl resin, fatty acid and fatty acid ketone. Not only does Daskivich fail to disclose the combination of ingredients specified in the claim, the references also fail to disclose the specific ranges. In col. 3, lines 65-68, Daskivich discloses 5-40% vinyl resin, 10-50% wax and 30-70% other resins. A person skilled in the art would not glean from this teaching, or any other teaching of the patent, a composition containing 25-75% fatty acid and 25-75% ketone. Consequently, claim 5 is allowable because of the specified ranges.

Claim 1 was additionally "rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative under 35 U.S.C. §103(a) as obvious over applicant's implied admission in combination with Daskivich (US 3,811,903)." In reply to this rejection, applicant adopts and reasserts all of the arguments urged above against the rejection of claims 1, 2 and 5 under 35 U.S.C. §103. Daskivich simply does not disclose or teach any specific composition including a combination of fatty acid ketone and fatty acid. Instead, the patent merely discloses that these two materials are among many materials used to make pattern materials. The patent certainly

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does not disclose that fatty acid and fatty acid ketones are "equivalent" for any purpose. There is no suggestion in the patent which would lead one having ordinary skill the art to add a fatty acid ketone to the known fatty acid ketone/vinyl resin formulation of the prior art in order to cure cavitation and shrinkage of the patterned material.

It is submitted that this amendment should be entered and that claims 1, 2, 5 and 6 should be allowed.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 35990.

Respectfully submitted,

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